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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.         | CONFIRMATION NO.       |
|---|-------------|----------------------|-----------------------------|------------------------|
| 10/686,630  | 10/17/2003  | Teruaki Itoh         | 160-393 (AMK)               | 8905                   |
| 23117 7590 08/03/2007<br>NIXON & VANDERHYE, PC<br>901 NORTH GLEBE ROAD, 11TH FLOOR<br>ARLINGTON, VA 22203 |             |                      | EXAMINER<br>ROSARIO, DENNIS |                        |
|   |             |                      | ART UNIT<br>2624            | PAPER NUMBER           |
|   |             |                      | MAIL DATE<br>08/03/2007     | DELIVERY MODE<br>PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/686,630             | ITOH, TERUAKI       |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Dennis Rosario         | 2624                |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 June 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,5 and 7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5 and 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment was received on 6/18/07. Claims 1,3,5 and 7 are pending.

### ***Response to Arguments***

2. Applicant's arguments on page 7 of the REMARKS filed 6/18/07 have been fully considered but they are not persuasive and states:

3. In response to applicant's argument on page 8 of the REMARKS that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "...discriminate types of a plurality of test tubes.") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Note that claim 1, last limitation states, "...determine a type of each of the test tubes." which broadly corresponds to determine one type of one test tube which is distinct from the above mentioned "discriminate types of a plurality of test tubes" which is understood to mean to determine at least two types of at least two test tubes.

4. Applicant's arguments on page 8 have been fully considered but they are not persuasive and states:

**"Kajiura lacks any such structure"**

The examiner respectfully disagrees since Kajiura discloses a structure (see MPEP 2114) as shown in fig. 1,num. 22 that corresponds to the claimed "pattern recognition unit."

5. In response to applicant's argument on page 8 of the REMARKS that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "...Kajiura...does not disclose any arrangement where an electronic camera is utilized to recognize both opening and side patterns of each of the test tubes.") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

6. Applicant's arguments on page 9 have been fully considered but they are not persuasive and states:

**"Nowhere does the Kajiura patent...suggest that multiple images of the products 1 can be utilized for any type of processing..."**

The examiner respectfully disagree since Kajiura suggests that multiple images (from a "plurality of imaging devices" in col. 2, line 32 of the products 1 (corresponding to "each surface" in col. 2, line 33 meaning that the plurality of imaging devices capture a single surface) can be utilized for any type of processing (corresponding to "inspected" in col. 2, line 33). Such a technique can broadly be seen in fig. 6 that has three imaging devices as shown as numerals 12c, 14d and 14e that capture a single surface or the top of num. 1.

7. Applicant's arguments on page 9 have been fully considered but they are not persuasive and states:

**"Nowhere does the Kajiura patent...suggest...to determine a type of each of a plurality of test tubes."**

The examiner respectfully disagrees since Kajiura discloses to determine (or "judged" in col. 4, line 57) a type ("nondefective product" in col. 4, line 57) of each of a plurality of test tubes.

After review of the applicant's remarks, the applicant appears to describe using two cameras to capture the same test tube as clearly shown in fig. 1 of applicant's drawings. However, the claim language does not clearly claim such a feature. The examiner suggests adding "of a single test tube" after the claimed "first and second images" of claim 1, line 2. The examiner does not believe that such a corresponding amendment will not overcome Kajiura, since Kajiura uses two cameras as shown in fig. 4A,num. 12a and fig. 4B,num. 12a to capture the same test tube as shown in figures 4A and 4B as num. 1.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1,3,5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kajiura et al. (US Patent 4,912,318 A1) in view of Bibbero (US Patent 3,202,761 A1).

Regarding claim 1, Kajiura teaches a test tube type discrimination apparatus comprising:

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a) first and second electronic cameras (fig. 1,numerals 12a and 12b) which pick up first and second ("respective" in col. 4, line 10) images of a plurality of test tubes (fig. 1,num. 1) held in a test tube rack (fig. 1,num. 2) one by one from a longitudinal direction (as shown by the downward arrow of fig. 4B) and a lateral direction (as shown by the line between numerals 12a, 14a and 1) of each of the test tubes (one of which is shown twice as num. 1 in figures 4A and 4B);

b) a pattern recognition unit (fig. 1,num. 22) which

b1) receives data (via a plurality of signal lines inputted into num. 22) of the first and second images picked up by the first and second electronic cameras and

b2) extracts an edge (as shown in fig. 10B as a wave form) of each of the first and second images to recognize opening and side patterns of each of the test tubes;

c) a standard pattern memory which stores plural standard opening and side patterns of the test tubes of plural types of test tubes ; and

d) a comparison determination unit which compares the opening and side patterns recognized by the pattern recognition unit and the plural standard opening and side patterns of the test tubes stored in the standard pattern memory to determine a type of each of the test tubes.



Kajiura does not teach paragraphs c) and d) but does teach that fig. 1,num. 22 performs image processing to obtain the waveform of fig. 10B from image 10A. However, Kajiura's teaching of image processing does not show how the image of fig. 10B is obtained to perform pattern recognition. Thus, Kajiura suggest to one of ordinary skill in the art that fig. 1,num. 22 has untaught components that transform the image of fig. 10A to the waveform of fig. 10B that enable pattern recognition.

Bibbero teaches the remaining components as shown in fig. 1 that enables pattern recognition and the remaining limitation of paragraphs c) and d):

c) a standard pattern memory (fig. 1,num 12) which stores plural standard opening and side patterns (corresponding to the plural form of analysis or "anal-yses" in col. 8, lines 9,10) of test tubes (as shown in fig. 6,num. 55) of plural types of test tubes; and

d) a comparison determination unit (fig. 9, COMPARISON(DISTANCE DETERMINATION) which compares the opening and side patterns recognized by the pattern recognition unit and the plural standard opening and side patterns of the test tubes stored in the standard pattern memory to determine a type (as done in fig. 6,num. 64) of each of the test tubes.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Kajiura's teaching of fig. 1,num. 22 and associated patterns in various orientations as indicated in figures 4A,4B,5A,5B and 6 with Bibbero's teaching of fig. 1 and analyses, because Bibbero's teaching enables a "corrective measure [to be performed without] a human operator" in col. 7, lines 65-67 such as sorting as done in Kajiura's fig. 1,num. 24: SORTING DEVICE.

Regarding claim 3, Kajiura of the combination teaches the test tube type discrimination apparatus according to claim 1, wherein the first and second electronic cameras each employ a CCD (or "line sensor cameras" in col. 4, line 5) as an image pickup device.

Claim 5 is rejected the same as claim 1, last paragraph. Thus, argument similar to that presented above for claim 1, last paragraph is equally applicable to claim 5.

Claim 7 is rejected the same as claim 1. Thus, argument similar to that presented above for claim 1 is equally applicable to claim 7.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Olcott (US Patent 4,467,212) is pertinent as capturing images (fig. 1,numerals 14 and 16) of a tube (fig. 1,num. 20). However, Olcott is not clear as teaching a method of the claimed opening pattern, but is clear as capturing the claimed side pattern because of the orientation of the tube's side 20 facing the cameras 14 and 16.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Rosario whose telephone number is (571) 272-7397. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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